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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,521	03/25/2004	Kenji Kato	11-240	5526
23400	7590	07/27/2005	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			LE, JOHN H	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/808,521	<b>Applicant(s)</b> KATO, KENJI	
	<b>Examiner</b> John H. Le	<b>Art Unit</b> 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/25/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al. (USP 6,418,790) in view of Kubotani (JP11-064376).

Regarding claims 1, 4, 8, Yukawa et al. disclose an abnormality detecting apparatus for a vibration-type angular velocity sensor that detects an abnormal condition of the vibration-type angular velocity sensor (e.g. Col.1, lines 34-48), comprising: frequency component extracting means (detector 10) for extracting a specific frequency component having the possibility that said angular velocity sensor may produce an erroneous output (e.g. Col.3, lines 15-43), based on the vicinity of said vibration-type angular velocity sensor (Col.3, lines 21-43); and judging means (11b) for comparing a level of said specific frequency component extracted by said frequency component extracting means (10) with a predetermined level and producing a signal notifying an abnormal condition of said angular velocity (e.g. Col.3, lines 56-59).

Yukawa et al. fail to teach the frequency component extracting means for extracting a specific frequency component having the possibility that said angular velocity sensor may produce an erroneous output, based on an acceleration signal detected by an acceleration sensor and judging means for producing a signal notifying

an abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level.

Kubotani teaches a frequency component extracting means for extracting a specific frequency component having the possibility that said angular velocity sensor may produce an erroneous output, based on an acceleration signal detected by an acceleration sensor and a judging means for producing a signal notifying an abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level (Kubotani, Abstract).

Regarding claims 2 and 5, Yukawa et al. disclose said specific frequency component having the possibility that said angular velocity sensor may produce an erroneous output (e.g. Col.3, lines 15-43) is a driving system resonance frequency relating to a driving system of said angular velocity sensor (e.g. Col.2, lines 35-55) and/or a difference frequency between said driving system resonance frequency and a sensing system resonance frequency relating to a sensing system of said angular velocity sensor (e.g. Col.3, lines 25-43).

Regarding claim 9, Yukawa et al. disclose the abnormality detecting apparatus for a vibration-type angular velocity sensor as discussed above is used in a vehicle brake control (Col.1, lines 4-5).

Regarding claims 3 and 6, Kubotani discloses the angular velocity sensor (yaw rate sensor 8) and said acceleration sensor (9) are installed in the same casing (See Kubotani, Abstract and Figure).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a frequency component extracting means for extracting a specific frequency component having the possibility that said angular velocity sensor may produce an erroneous output, based on an acceleration signal detected by an acceleration sensor and a judging means for producing a signal notifying an abnormal condition of said angular velocity sensor when the level of said specific frequency component is larger than said predetermined level as taught by Kubotani in an abnormality detecting apparatus for a vibration-type angular velocity sensor of Yukawa et al. for the purpose of providing a sensor abnormality detector in vehicle movement controller.

Regarding claim 7, Yukawa et al. disclose electric circuit (8). Although Yukawa et al. and Kubotani are silent on the teaching the electric circuit having the capability of executing hardware processing or by a computer having the capability of executing software processing according to a predetermined algorithm. However, Yukawa et al. teach the detector 11 issues a DIAG signal to an outside computer when the sensor is irregular (Col.3, lines 18-20), and the signal is applied to the electrode 12b of the second exciter on the basis of an ON/OFF switching state of the external trigger 16 (Col.4, lines 62-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include executing hardware processing or a computer having the capability of executing software processing according to a predetermined algorithm in an abnormality detecting apparatus for a vibration-type angular velocity

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sensor of Yukawa et al. in view of Kubotani for the purpose of providing a computer executing the electric circuit (8) for detecting abnormality in angular velocity sensor.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al. (USP 6,418,790) in view of Mitarmura (USP 5,908,986) and Ichinose et al. (USP 6,584,841).

Regarding claim 10, Yukawa et al. disclose an abnormality detecting apparatus for a vibration-type angular velocity sensor (e.g. Col.1, lines 34-48) that has a vibrator element driven at a predetermined resonance frequency (e.g. Col.2, lines 44-55) comprising: first judging means (11b) for detecting a frequency at which said vibrator element and checks whether or not the detected frequency is within a specific frequency range having the possibility that said angular velocity sensor may produce an erroneous output (e.g. Fig.1b, Col.2, lines 35-43, Col.4, lines 44-56);

Yukawa et al. fail to disclose detects an angular velocity based on a displacement of said vibrator element in a sensing direction normal to a vibrating direction of said vibrator element, comprising: judging means for detecting a frequency at which said vibrator element causes a displacement in said sensing direction; and second judging means for generating an abnormality signal when it is judged by said first judging means that the detected frequency is within said specific frequency range.

Mitarmura teaches detects an angular velocity based on a displacement of said vibrator element in a sensing direction normal to a vibrating direction of said vibrator element (abstract) comprising: judging means (controller 44) for detecting a frequency

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at which said vibrator element causes a displacement in said sensing direction (e.g. Col.18, lines 1-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include judging means for detecting a frequency at which said vibrator element causes a displacement in said sensing direction as taught by Mitamura in an abnormality detecting apparatus for a vibration-type angular velocity sensor of Yukawa et al. for the purpose of providing a new self-diagnosis method of an angular velocity sensor (Mitamura, Col.3, lines 13-19).

Ichinose et al. teach second judging means (29b) for generating an abnormality signal when it is judged by said first judging means (22) that the detected frequency is within said specific frequency range (e.g. Fig.5, Col.5, lines 5-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include second judging means (29b) for generating an abnormality signal when it is judged by said first judging means (22) that the detected frequency is within said specific frequency range as taught by Ichinose et al. in an abnormality detecting apparatus for a vibration-type angular velocity sensor of Yukawa et al. in view of Mitamura for the purpose of providing a vibrator with vibration a means for detecting a vibration level of the vibrator in an angular velocity sensor (Ichinose et al., Col.1, lines 35-46).

#### ***Contact Information***

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275.

The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

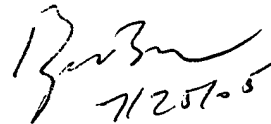
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le

Patent Examiner-Group 2863

July 23, 2005

**BRYAN BUI**  
**PRIMARY EXAMINER**



Handwritten signature of Bryan Bui, dated 7/25/05.